



APPLICATION NOTES FOR SATEL RADIO MODEMS

Radio modems used for monitoring of heat distribution centres

In Bielsko-Biała, Poland, the monitoring and control of a heat supply network comprising sixty heat distribution centres was recently renovated. The automation of the centres is based on programmable controllers, and practically all of them are included in a data transmission system. In the past, the communication within the network was based on commuted telephone network and multi-paired cable connection.

Radio modems provide a new alternative

Along with the automation of the heat distribution centres with up-to-date controllers the Municipal Utility Company examined possibilities of applying wireless transmission. A series of trials was made with different equipment. Special attention was paid to the quickness of the switchover between the transmission and receiving modes.

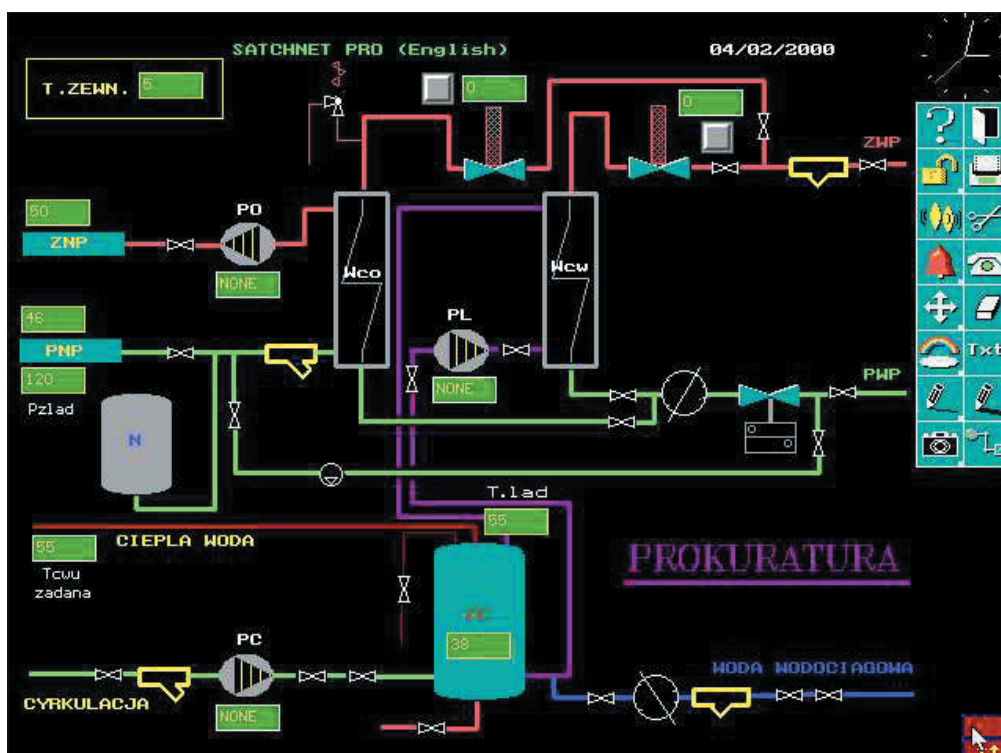
The trials of SATEL radio modems were completely successful. The switchover times are so short that the SATEL radio modems operating between the computer and the controllers could be compared to a transmission cable. Their simple configuration is an additional advantage; no special software is needed, and the radio modems are ready to operate immediately upon incorporation into the existing transmission system.

Currently, three SATEL radio modems are used in the heat distribution system. One of them is equipped with a multidirectional antenna and located at the district dispatch room. The central monitoring computer installed at the site facilitates on-line monitoring of several distribution centres. There are wireless connections via SATEL radio modems between the district dispatch centre and two group distribution centres, located at a distance of approximately 1 km and 2 km, respectively. The

transmission quality is excellent, in spite of heavily built area and uneven land.

The future is increasingly wireless

The earlier connections to the specified sites were based on 'off-line' transmission (commuted telephone network). The advantages of the new on-line technology are self-evident: easier access to and better control of individual operations parameters, better organisation and speed of the alarm system, and improved reliability thanks to lower failure rate compared to rather high rates



Satchnet visualisation of the District Prosecutor's Office centre connected with the Old Town via cable

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with telecommunication lines and telephone modems. In particular, in areas where cables are yet to be laid, and such enterprise were to prove impossible or too costly, radio modems are the best choice. Thanks to them, the entire system can be standardised. In the future also major heating plants in the district will

probably be automated. Implementing on-line monitoring of them through wireless communication would then be a must.



Electricity cabinet in the SW 110 group centre
Goleszowska street



Location of the stations equipped with SATEL radio modems



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